IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(Currently Amended) An active matrix electroluminescent display device comprising an array of display pixels, each pixel comprising:

an electroluminescent display element;

a drive transistor for driving a current through the display element, a drive voltage being provided to the gate of the drive transistor;

and a storage capacitor for storing a ~~drive level~~ pixel voltage, said storage capacitor being connected between an input to the pixel and the gate of the drive transistor,

wherein a driver circuitry provides a stepped voltage waveform to the input of the pixel, the stepped voltage waveform being voltage-shifted by the storage capacitor before application to the

gate of the drive transistor, and wherein ~~the~~ a height of ~~the~~ steps in the stepped voltage waveform is greater than ~~the~~ a voltage width of a linear operating region of the drive transistor so that the linear operating region of the drive transistor is avoided, the pixel voltage being selected so that a voltage range of the linear operating region corresponds to voltage levels between a transition of two steps of the stepped voltage waveform.

2.(Previously Presented) The device as claimed in claim 1, wherein the height of the steps in the stepped voltage waveform is sufficient to include the linear operating region voltages of the drive transistors of all pixels of the display.

Claim 3 (Canceled)

4.(Previously Presented) The device as claimed in claim 1, wherein each pixel further comprises an address transistor, connected between a power supply line and the gate of the drive transistor.

5.(Previously Presented) The device as claimed in claim 4, wherein each pixel further comprises means for disabling the driving of current by the drive transistor through the display element.

6.(Previously Presented) The device as claimed in claim 5, wherein the means for disabling comprises an isolating transistor in series with the drive transistor and the display element.

7.(Previously Presented) The device as claimed in claim 4, wherein the device further comprises disabling means comprising a switch for switching the voltage on one terminal of the display elements of the array of pixels.

8.(Currently Amended) An active matrix electroluminescent display device comprising an array of display pixels, each pixel comprising:

an electroluminescent display element;

a drive transistor for driving a current through the display element, a drive voltage waveform being provided to the gate of the

drive transistor;

an address transistor, connected between a power supply line and the gate of the drive transistor;

means for disabling the driving of the current by the drive transistor through the display element; and

a storage capacitor for storing ~~a drive level~~ pixel voltage, said storage capacitor being connected between an input to the pixel and the gate of the drive transistor,

wherein a driver circuitry provides a stepped voltage waveform to the input of the pixel, the stepped voltage waveform being voltage-shifted by the storage capacitor before application to the gate of the drive transistor to form the drive voltage waveform, and wherein ~~the~~ a height of ~~the~~ steps in the stepped voltage waveform is greater than ~~the~~ a voltage width of ~~the~~ a linear operating region of the drive transistor, the pixel voltage being selected so that a voltage range of the linear operating region corresponds to voltage levels between a transition of two steps of the stepped voltage waveform, and

wherein the device is operable in two modes:

a first mode in which ~~a~~ the pixel voltage is applied to the

input ~~to~~ of the pixel, the address transistor is turned on, the disabling means is turned on to turn off the display element and the storage capacitor is charged to ~~a level derived from the drive voltage~~the pixel voltage; and

a second mode in which the address transistor is turned off, the disabling means is turned off and the stepped voltage waveform is applied to the input of the pixel.

9.(Previously Presented) The device as claimed in claim 1, wherein the device is operable in at least two sequential phases, one phase providing coarse resolution pulse width modulation and the other, shorter phase, providing fine resolution pulse width modulation.

10.(Currently Amended) A method of addressing an active matrix electroluminescent display device comprising an array of display pixels, each pixel comprising an electroluminescent display element, a drive transistor for driving a current through the display element, and a storage capacitor connected between an input to the pixel and ~~the~~ a gate of the drive transistor, the method

comprising the acts of:

storing a ~~drive level~~ pixel voltage on the storage capacitor;

providing a stepped voltage waveform to the input of the pixel, the stepped voltage waveform being voltage-shifted by the pixel voltage stored on the storage capacitor before application to ~~a~~ the gate of the drive transistor, such that for a first set of ~~the~~ voltage steps of the stepped voltage waveform applied to the gate of the drive transistor, the drive transistor is turned on, and for a second set of the voltage steps applied to the gate of the drive transistor, the drive transistor is turned off, the first and second sets being determined by the stored ~~drive level~~ pixel voltage; and

avoiding a linear operating region of the drive transistor by having a height of the voltage steps of the first set ~~of the voltage steps~~ and the second set being greater than a voltage width of ~~the~~ a linear operating region of the drive transistor, the pixel voltage being selected so that a voltage range of the linear operating region corresponds to voltage levels between a transition of two steps of the stepped voltage waveform.

Claim 11 (Canceled)

12.(Currently Amended) The method as claimed in ~~claim 11~~ claim 10, wherein the height of the steps in the stepped voltage waveform is greater than the voltage width of the overlaid linear operating region voltages of the drive transistors of all pixels of the display.

Claim 13 (Canceled)

14.(Currently Amended) The method as claimed in claim 10, wherein the act of storing a pixel ~~drive level~~ voltage on the storage capacitor comprises turning on an address transistor connected between a power supply line and the gate of the drive transistor and charging the storage capacitor using the address transistor.

15.(Currently Amended) A method of addressing an active matrix electroluminescent display device comprising an array of display pixels, each pixel comprising an electroluminescent ~~(EL)~~

display element, a drive transistor for driving a current through the display element, and a storage capacitor connected between an input to the pixel and the gate of the drive transistor, the method comprising the acts of:

storing a ~~drive level~~ pixel voltage on the storage capacitor;

providing a stepped voltage waveform to the input of the pixel, the stepped voltage waveform being voltage-shifted by the pixel voltage stored on the storage capacitor before application to a gate of the drive transistor, such that for a first set of the voltage steps applied to the gate of the drive transistor, the drive transistor is turned on, and for a second set of the voltage steps applied to the gate of the drive transistor, the drive transistor is turned off, the first and second sets being determined by the stored ~~drive level~~ pixel voltage;

disabling the driving of the current by the drive transistor through the display element during the storing of ~~a~~ the pixel ~~drive level~~ voltage on the storage capacitor;

in a first mode in which ~~a~~ the pixel voltage is applied to the input to the pixel, turning on the address transistor, turning off the display element, and charging the storage capacitor to a level

derived from the drive voltage; and

in a second mode in which the address transistor is turned off, applying the stepped voltage waveform to the input of the pixel;

wherein a height of steps in the stepped voltage waveform is greater than a voltage width of a linear operating region of the drive transistor so that the linear operating region of the drive transistor is avoided, and

wherein the pixel voltage is selected so that a voltage range of the linear operating region corresponds to voltage levels between a transition of two steps of the stepped voltage waveform.

16. (Previously Presented) The method as claimed in claim 10, wherein the device is operable in at least two sequential phases, one phase providing coarse resolution pulse width modulation and the other, shorter phase, providing fine resolution pulse width modulation.

17. (Currently Amended) The method as claimed in claim 16, wherein the stepped voltage waveform to the input of the pixel has

the same voltage levels in the two phases, and the shorter phase has shorter step ~~transitions~~ durations.

18.(New) The device of claim 1, further comprising an address transistor having a gate terminal for receiving an address signal to turn the address transistor on and off, and source and drain terminals that are directly connected between the power supply line and the gate of the drive transistor.

19.(New) The device of claim 8, wherein the address transistor has a gate terminal for receiving an address signal to turn the address transistor on and off, and source and drain terminals that are directly connected between the power supply line and the gate of the drive transistor.

20.(New) The method of claim 10, wherein the pixel voltage stored on the storage capacitor determines a duty cycle of a current profile for operating the electroluminescent display element.

21. (New) The method of claim 15, wherein the pixel voltage stored on the storage capacitor determines a duty cycle of a current profile for operating the electroluminescent display element.